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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/576,049

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Martin Beck

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EXAMINER

CHAPMAN, GINGER T

ART UNIT

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3761

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/576,049	Applicant(s) BECK ET AL.	
	Examiner Ginger T. Chapman	Art Unit 3761	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 October 2009.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-11, 15, 17-24 and 26-29 is/are pending in the application.
- 4a) Of the above claim(s) 3-11, 17-20, 22 and 23 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 2, 15, 21, 24 and 26-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☒ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 26 October 2009 has been entered.

Status of the Claims

1. Claims 1-11, 15, 17-24 and 26-29 are pending in the application, claims 3-11, 17-20 and 22-23 are withdrawn from consideration as being drawn to a nonelected invention, claims 1, 2, 15, 21, 24 and 26-29 are examined on the merits.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.

Art Unit: 3761

2. Ascertaining the differences between the prior art and the claims at issue.
 3. Resolving the level of ordinary skill in the pertinent art.
 4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
3. Claims 1, 15, 21, 27 and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Klimmek et al (US 5,847,031) in view of Chmelir (US 5,856,370).
4. With respect to claim 1, Klimmek discloses a hydrogel having a thickening capability, thickening capability is a known property of hydrogels as they imbibe fluids and \ gel, said hydrogel comprising superabsorbent polymer particles (c. 2, ll. 62-67; c. 3, l. 25 and ll. 43-52, c. 7, l. 39) disclosing the substantially identical superabsorbent polymers disclosed in the instant Specification at page 10, lines 15-25 and ll. 35-42; p. 11, ll. 25-30 as suitable embodiments of the instant claimed polymer), coated with a hydrophobic compound (col. 10, l. 68, Example 17), wherein the hydrophobic compound is a hydrophobicized silica, a multivalent cation (Example 17, col. 11, l. 6; col. 5, ll. 11-15 and ll. 23-27). The examiner notes that the claim recites, "...and optionally a hydrophilic compound."; since this compound is optional, it appears that it this optional ingredient is not necessary for the invention as claimed to be operable.
5. With respect to the property of the thickening of the hydrogel, since the hydrogel of the prior art appears to be comprised of the substantially identical materials formed in the substantially identical manner, it will exhibit the claimed property of thickening.
6. Klimmek discloses the claimed invention except for expressly disclosing the ranges of 0.05% to 1% by weight of hydrophobicized silica and 0.05% to 4% by weight of the multivalent cation. As best disclosed in the numerous Examples, in particular Example 1, col. 8, ll. 59-61; Example 17, col. 10, l. 65 to col. 11, l. 8, Klimmek discloses

Art Unit: 3761

the general conditions of the claim of using ranges of hydrophobicized silica and multivalent cations. Klimmek further teaches that these compounds help obtain desired properties such as fast rate of absorption (col. 3, ll. 30-32).

7. Therefore in view of the teachings of Klimmek, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the silica and cation in the claimed ranges of amounts since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art.

8. Klimmek discloses the claimed invention except for “a floatability” and wherein the hydrogel thickens from 40% to 90% of an aqueous solution or suspension starting from the surface of the solution or suspension and the rest of the solution or suspension starting from the bottom of a container for the solution or suspension.

9. The examiner notes that a floatability is a property desired of the hydrogel and the thickening of a solution is a functional recitation of what it is desired that the hydrogel perform rather than what it is. The claims define the invention in terms of a result to be achieved rather than the structural or technical features necessary for achieving the result; therefore it is unclear whether the features responsible for arriving at the desired parametric properties are defined in the claim.

10. Claiming an invention in terms of what it does rather than what the invention is can be a permissible technique that Applicant may use to define the invention if it cannot be described in any other way. However, where the claimed and prior art products or compositions are substantially identical in structure or composition a *prima facie* case of either anticipation or obviousness has been established. See MPEP § 2112.01 [R-3] I.

Art Unit: 3761

With respect to composition claims, products of identical chemical composition cannot have mutually exclusive properties, therefore if the prior art teaches the identical chemical structure, then the properties Applicant discloses and / or claims are necessarily present. See MPEP § 2112.01 [R-3] II.

11. The discovery of a new use for an old structure may be patentable based on unknown properties of the structure might be patentable to the discoverer as a process of using; however when the claim recites using an old composition or structure and the "use" is directed to a result or property of that composition or structure, then the claim is anticipated. *In re May*, “74 F.2d 1082, 1090, 197 USPQ 601, 607 (CCPA 1978). Merely finding a new property does not constitute a new use. See MPEP § 2112.02.

12. As per MPEP § 2144.09, rejections based on close structural similarity is founded on the expectation that compounds similar in structure will have similar properties. A prima facie case of obviousness may be made when chemical compounds have very close structural similarities and similar utilities. “An obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties.” *In re Payne*, 606 F.2d 303, 313, 203 USPQ 245, 254 (CCPA 1979); *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963); *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1991).

13. In the alternative, Chmelir teaches, at column 2, lines 57-58, that polymer particles can be made to have floatability because water has a density of about 1.0 g/cm³ and that by adjusting the density of the particles to a density below 1.0 g/cm³ which is below the density of water, those particles will float on the surface of water, and particles

Art Unit: 3761

having a density greater than 1.0 g/cm³ will sink because they are denser than water, in the same manner that dust will float on the surface of water due to surface tension of liquid while larger particles tend to sink to the bottom, therefore one of ordinary skill in the art would recognize that particle size and density can be adjusted to provide floatability if desired.

14. The examiner notes that Chmelir is cited only for the teaching of adjusting density for floating and sinking particles, and is not cited for methods of obtaining different densities.

15. With respect to claim 15, Klimmek discloses a hygiene article comprising a hydrogel of claim 1, the article selected from the group consisting of incontinence articles, napkin, tampon and a liner (col. 7, ll. 38-42; col. 1, ll. 24-25).

16. With respect to claim 21, Klimmek discloses one or more of biocidal material, perfume or scent material (col. 7, l. 45, l. 46).

17. With respect to claim 27, Klimmek discloses the hydrogel further comprises a surfactant column 3, lines 64 to col. 4, lines 1-2).

18. With respect to claim 28, Klimmek discloses the multivalent cation is an aluminum ion (Example 1, col. 8, l. 60; Example 17, col. 11, l. 6).

19. Claims 2, 26 and 29 rejected under 35 U.S.C. 103(a) as being unpatentable over Klimmek et al (US 5,847,031) in view of Chmelir (US 5,856,370) and further in view of Frenz et al (US 2002/0128618 A1).

20. With respect to claim 2, the combination of Klimmek and Chmelir disclose the claimed invention except for expressly disclosing a solidification time of less than 120 seconds upon contact with solution and / or having a blood absorbance of at least 10 g/g.

Art Unit: 3761

Klimmek, at column 8, lines 14-15 and lines 47-51, teaches the hydrogel having “rapid”, very rapidly”, and “absorbed from beginning to end” rates of absorption for Examples 1-20, and retention in terms of 1 g of substance, thus providing motivation for fast rates of absorption and absorbance retention of fluids, but does not disclose the time in seconds.

21. Frenz, at [0024] provides motivation for a hydrogel comprising superabsorbent polymer, hydrophobicized silica and multivalent cations and possessing 0040, 0085, 0093] having absorbance of at least 24 g/g in a time of not more than 160 seconds [0019, 0021, 0037-38], therefore the examiner has a reasonable basis to conclude that the composition of Frenz meets the claimed parameters of absorbance of 10 g/g in about 120 seconds, in the alternative, in view of the teachings of Frenz, it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the compositions of Klimmek and Chmelir having the claimed properties since it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

22. With respect to claim 26, Klimmek discloses the claimed invention except for the hydrophilic compound is a silica or mixture of silicas and aluminas. Klimmek discloses silica thus providing motivation for such. Frenz, at [0085] teaches using silicas that can be hydrophilic. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the silicas taught by Frenz in the composition of Klimmek since Frenz states, at [0085] that utilizing different types of silica can be used to adjust and impart desired physical properties to the composition.

Art Unit: 3761

23. With respect to claim 29, the combination of Klimmek and Chmelir disclose the claimed invention except for the surfactant is a sorbitan ester. Klimmek discloses surfactants thus providing motivation for such. Frenz discloses the use of surfactants including sorbitan esters [0057]. Therefore it would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the surfactant of Klimmek as a sorbitan ester as taught by Frenz since Frenz states, at [0057], this improves the functionality at the surface of the particles.

24. Claims 2, 26 and 29 rejected under 35 U.S.C. 103(a) as being unpatentable over Klimmek et al (US 5,847,031) in view of Chmelir (US 5,856,370) and further in view of Karapasha et al (US 5,306,487).

25. With respect to claim 24, the combination of Klimmek and Chmelir disclose the claimed invention except for expressly disclosing the hydrophobic and optional hydrophilic compound are particles having an average diameter from 0.001 to 10 μm . Klimmek discloses the particle size can be adjusted from a powder to granular for particular end purposes, but does not disclose particular sizes. Karapasha teaches hydrogel comprising hydrophobicized silica and hydrophobicized mixtures of silicas and aluminas (c. 3, ll. 50-51) having average diameters from 1 to 15 μm (c. 3, l. 59).

26. One of ordinary skill in the art would recognize that smaller particle have larger surface area relative to their internal volume and would thus have a faster rate of uptake of fluids, while larger particle sizes would have slower uptake due to smaller surface area for contact with fluid relative to their internal volume size, as is well known in the art. Therefore it would have been obvious to one having ordinary skill in the art at the time

Art Unit: 3761

the invention was made to provide the particles of Klimmek / Chmelir in sizes as taught by Karapasha in order to adjust rates of fluid uptake for a particular end use.

27. With respect to the bottom end of the range of 0.001 to less than one micron, when the claimed range and the prior art range are very similar, here the range taught in the prior art of 1 to 15 μm overlaps the claimed range of 0.001 to 10 μm , the range of the prior art establishes prima facie obviousness because one of ordinary skill in the art would have expected the similar ranges to have similar properties. See *In re Paterson*, 65 USPQ 2d 1379, 1382, citing *Titanium Metals Corp. v. Banner*, 227 USPQ 773, 779. In additional, Karapasha characterizes the hydrophobic particles as very small and dusty, one of ordinary skill in the art would recognize that dust tends to float on the surface of a liquid due to surface tension of liquid while larger particles tend to sink to the bottom, therefore one of ordinary skill in the art would recognize that particle size and density can be utilized to provide floatability.

Response to Arguments

28. Applicant's arguments filed 10/26/2009 have been fully considered but they are not persuasive. With respect to Chmelir, Applicant argues the particles of Chmelir are obtained using a different process than Applicants'. This argument is not persuasive because the examiner is citing Chmelir for only the teaching of density, i.e. particles less dense, lighter than water, will float on the surface of water, while particles heavier i.e. denser than water, i.e. greater than about 1 g/cm^3 will sink in water.

29. Applicant's arguments with respect to claims 1-2, 15, 21 and 26-29 have been considered but are moot in view of the new ground(s) of rejection.

Art Unit: 3761

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ginger T. Chapman whose telephone number is (571)272-4934. The examiner can normally be reached on Monday through Friday 9:30 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tatyana Zalukaeva can be reached on (571) 272-1115. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ginger T Chapman/
Examiner, Art Unit 3761
12/31/09

/Tatyana Zalukaeva/
Supervisory Patent Examiner, Art Unit 3761